

# Notice of Allowability

Application No.

10/637,127

Examiner

Natalia Levkovich

Applicant(s)

GOPALSAMI ET AL.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendments submitted on 09/11/2006.
2. ☒ The allowed claim(s) is/are 2-12 and 21-24.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms. Joan Pennington on 10/11/2006. The application has been amended as follows:

#### IN THE CLAIMS:

**Cancel** Claims 13-20.

In Claim 2 please **delete** Lines 4-8 (—detecting resonance patterns and identifying a shift in resonance frequency and a change of line width before and after introduction of the sample into said resonator including the steps of generating said resonance pattern as a function of sample concentration for a given sample by selectively varying sample concentrations for a plurality of tests; —),  
and in their place **insert** —

providing a sequence of reference samples having varying concentration of chemical and biological materials;

detecting generated resonance patterns of said sequence of reference samples;  
identifying a shift in resonance frequency and a change of line width from said generated resonance patterns; —

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**Claim 21**, line 2, after 'as recited in claim', **delete** — 1 —

Claim 21, line 2, after 'as recited in claim', **insert**—2 —

Claim 21, line 4, before 'includes, **delete** — generating said resonance patterns as a function of sample concentration for a given sample by selectively varying sample concentrations for a plurality of tests- —

Claim 21, line 4, before 'includes, **insert**— providing a sequence of resonance samples having varying concentrations of chemical and biological materials —

Claim 21, line 4, after 'includes, **delete** — generating said resonance patterns as a function of sample concentration for a given sample by —

**Claim 22**, line 2, after 'as recited in claim', **delete** — 1 —

Claim 22, line 2, after 'as recited in claim', **insert**—2 —

Claim 22, line 4, before 'includes, **delete** — generating said resonance patterns as a function of sample concentration for a given sample by selectively varying sample concentrations for a plurality of tests- —

Claim 22, line 4, before 'includes, **insert**— providing a sequence of resonance samples having varying concentrations of chemical and biological materials —

Claim 22, line 4, after 'includes, **delete** — generating said resonance patterns as a function of sample concentration for a given sample by —

**Claim 23**, line 2, after 'as recited in claim', **delete** — 1 —

Claim 23, line 2, after 'as recited in claim', **insert**—2 —

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Claim 23, line 4, before 'includes, **delete** — generating said resonance patterns as a function of sample concentration for a given sample by selectively varying sample concentrations for a plurality of tests- —

Claim 23, line 4, before 'includes, **insert**— providing a sequence of resonance samples having varying concentrations of chemical and biological materials —

Claim 23, line 4, after 'includes, **delete** — generating said resonance patterns as a function of sample concentration for a given sample by —

**Claim 24**, line 2, after 'as recited in claim', **delete** — **1** —

Claim 24, line 2, after 'as recited in claim', **insert**—**2** —

Claim 24, line 4, before 'includes, **delete** — generating said resonance patterns as a function of sample concentration for a given sample by selectively varying sample concentrations for a plurality of tests- —

Claim 24, line 4, before 'includes, **insert**— providing a sequence of resonance samples having varying concentrations of chemical and biological materials —

Claim 24, line 4, after 'includes, **delete** — generating said resonance patterns as a function of sample concentration for a given sample by —

2. The following is an examiner's statement of reasons for allowance: Claims 2-12 and 21-24 are allowable over the prior art, since the prior art fails to teach or fairly suggest a method for real time detection of chemical and biological materials by determining a complex dielectric constant of a sample through identifying both resonance frequency shifts and line width changes when characteristics of unloaded resonator are compared to those of the sample loaded one, the resonator being

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calibrated with the use of reference samples having varying concentration of the materials to be detected.


The closest prior art, Nagata et al., discloses a method and device for determining complex dielectric constants of samples based on measurements of resonant shift values and comparing them with calibration curves. However, Nagata does not teach the line widths to be taken into account and the calibration curves to be functions of the sample concentration.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance." Any inquiry concerning this communication or earlier communications from the examiner should be directed to Natalia Levkovich whose telephone number is 571-272-2462. The examiner can normally be reached on Mon-Fri, 8 a.m.-4p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jill Warden  
Supervisory Patent Examiner  
Technology Center 1700